

UNITED STATES COAST GUARD
47 FOOT MOTOR LIFEBOAT
FENDER SYSTEM REPAIR MANUAL

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ABOUT THE FENDER SYSTEM

Material and Construction

The fenders are constructed of extruded ionomer foam. Ionomer resins are high-grade thermoplastic polymers of the polyolefin family manufactured by DuPont under the brand name Surlyn® and by Exxon Chemical under the name Iotek®. In addition to exceptional resistance to environmental agents and chemicals, ionomer resins have the unique ability to link ionically between neighboring molecular chains with the same bond as the polymer chain itself. These molecular bonds give structures built of ionomer foam exceptional integrity.

Initially extruded as a continuous sheet, Softlite Ionomer Foam has a very strong, thick-walled, closed-cell structure. During the foaming process, uniform pigments, ultraviolet stabilizers, and antioxidants are integrated into the cell structures.

After extrusion, the continuous sheet is rolled up into a cylinder by continuous spiral winding under heat and pressure, causing each successive layer to weld to the previous, using the ionic cross-linkages to create an integrally structured homogeneous mass of tough, universally pigmented, flexible, closed-cell ionomer foam.

This cylindrical mass can be shaped to any exterior contour by heat-cutting. The MLB fenders are precision-wire cut to dimensional requirements before surface densification. After densification, sections are heat-welded and then molded to produce the seamless finish. Finally, front access and slotted bolt holes, and as required, rear relief slots are cut. The resultant foam structure offers superior strength, energy absorption, compression resistance, water barrier characteristics, and structural integrity.

The final surface of the fenders is a skin of solid ionomer plastic (45.0 pounds per cubic foot). The cylinders are made intentionally oversized so that the outer layers can be compacted with heat and pressure to form this skin. The skin is tough, but smooth and flexible; it is the same material used for the covers of bowling pins and golf balls. The surface resists abrasions and cuts, is not rough on ship paint or metal, and is non-marking in any color. Since the skin is identical to the interior foam, the fender's integrity is unsurpassed.

Characteristics

Extruded, ionically cross-linked Softlite foam is considered the toughest, most durable, flexible, low-density, closed-cell foam on the market. In addition, during the extrusion process, uniform colors, ultraviolet stabilizer, and antioxidant are integrated into all the cell structures throughout the fender mass.

Softlite Ionomer Foam is especially well suited for marine fenders because it offers toughness, durability, excellent resistance to environmental agents, e.g., solar radiation, salt, waves, etc., with low weight and density, while possessing great flexing strength and energy

absorption capacity.

The fender is a uniform structure of thick-walled, closed-cell, universally pigmented 4.5 pound per cubic foot Softlite Ionomer Foam. The structure is composed of a continuous spiral, alternating layers of low-density foam with high-density welds. There are no voids or cavities in the foam; such voids are impossible in the Softlite construction process.

The fenders retain their inherent characteristics at all temperatures from -85°F to +175°F. The fenders will not fracture or distort when dropped on a hard surface, when struck by a vessel under operating conditions, or when working between two vessels or between a vessel and pier.

The irrelevance of inevitable surface damage to fender function is a significant advantage over old-style, composite material, foam-filled fenders

HOW TO USE THIS MANUAL

- 1) Assess extent and location of fender system damage.

Measure the length of damaged fender. Replacement sections must begin and end between studs and span a minimum of two studs. Mark the nearest “between-stud” location from each end of the damage. This is the minimum replacement section length you will need.

The location of your damage will be identified by stud positions as well as distances from bow and stern centers and distances from stern corners (see fender system layout drawings, beginning on pg. 6).

- 2) Determine the appropriate repair kit for your requirement.

Go to the fender system layout drawings beginning on pg. 6. Review the drawings and select the layout drawing (bow, stern or lower rail) that is covered in the specific area of your damage. Each drawing identifies the applicable repair kit and is highlighted indicating the locations the kit can be used.

There may be more than one kit that covers the specific location you are repairing so review all the layout drawings before making your kit selection.

Pay particular attention to the kit descriptions. The Bow nose kit and Port & Starboard molded kits require the entire replacement section length be used. The Universal Straight section and Universal End section replacement sections may be cut to fit in shorter lengths for smaller damaged areas, keeping in mind that a minimum of two studs must be spanned.

- 3) Determine the order point: - before ordering from the manufacturer you should check to determine if your fender system is still under warranty.

- 4) Ordering - You can order complete systems or any of the repair & replacement kits listed in this catalogue from the following sources:

USCG ELC Procurement Branch
Aux. Sys Acq. Div., Bldg #31, 2nd Fl.
2401 Hawkins Point Rd. Mail Stop #99
Baltimore, Maryland 21226
POC: Cecelia J. Whitehead
Phone: 410 762-6495

Gilman Corporation
40 Main Street - One Polly Lane - Box 68
Gilman, CT 06336
Phone: 860 887-7080
Fax: 860 886-5402

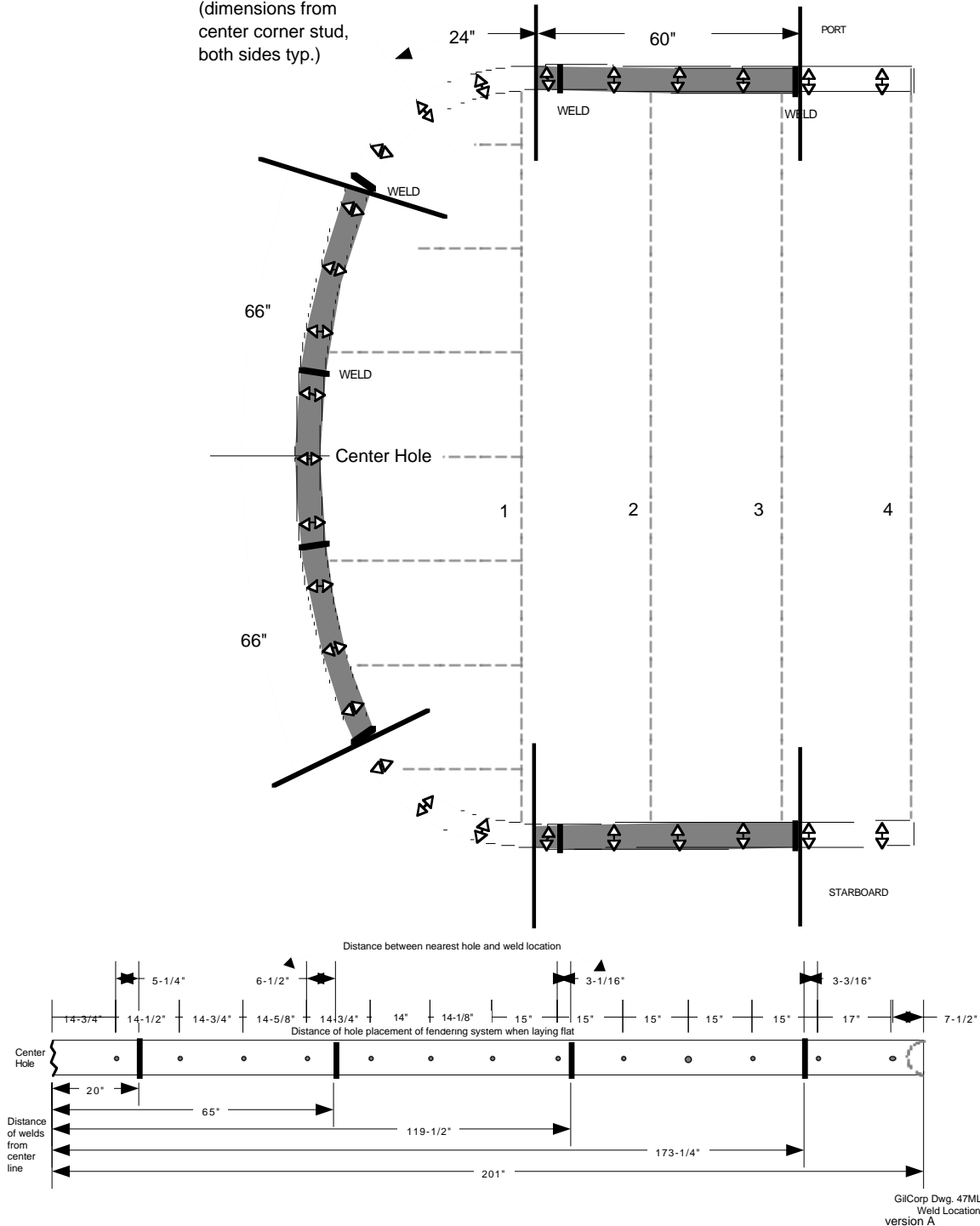
Check with your funding activity to determine your best source of supply.

- 5) Custom replacement sections are also available direct from the Gilman Corporation.

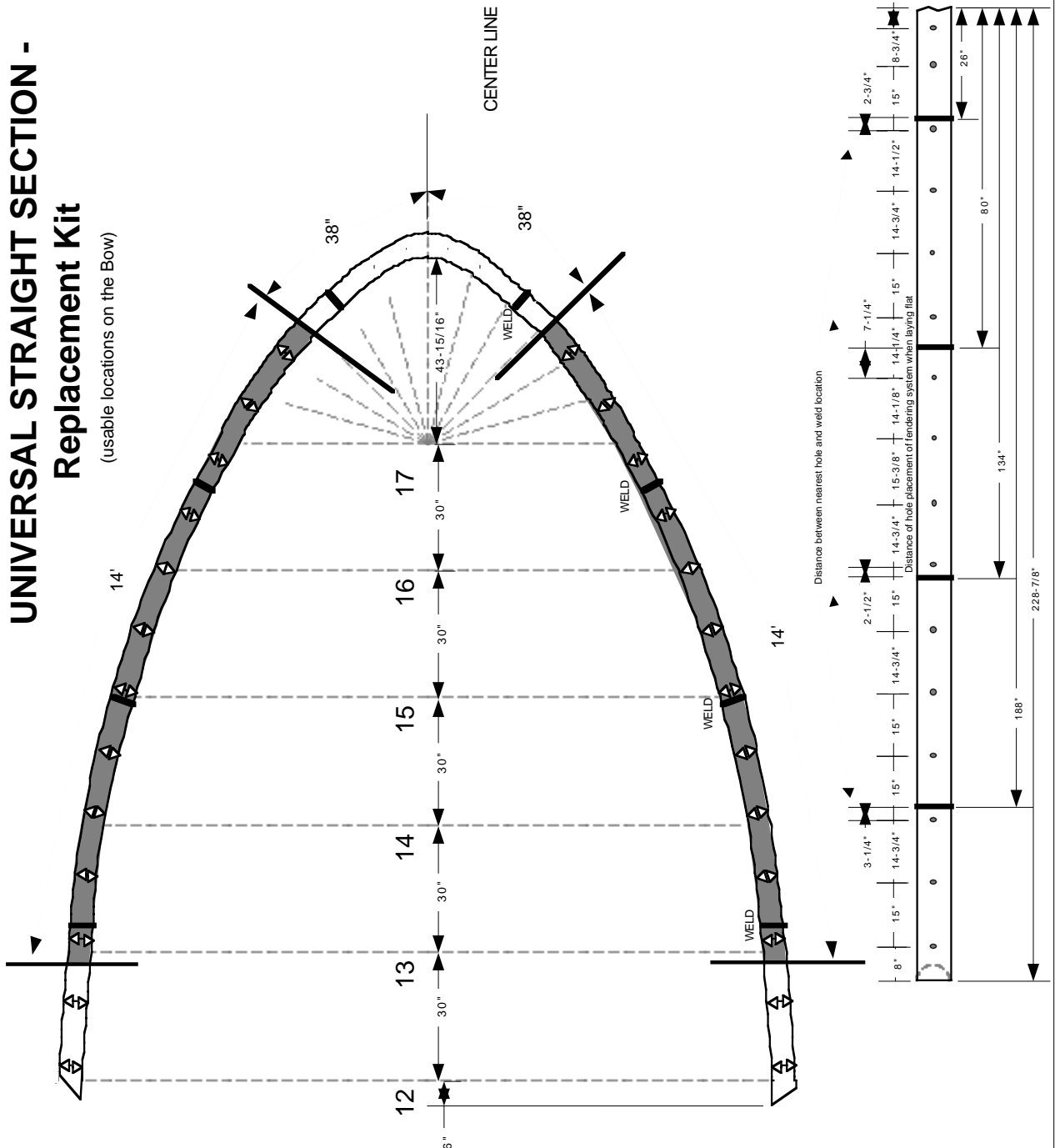
UNIVERSAL STRAIGHT SECTION Replacement Kit

(usable locations on the Stern)

(dimensions from
center corner stud,
both sides typ.)

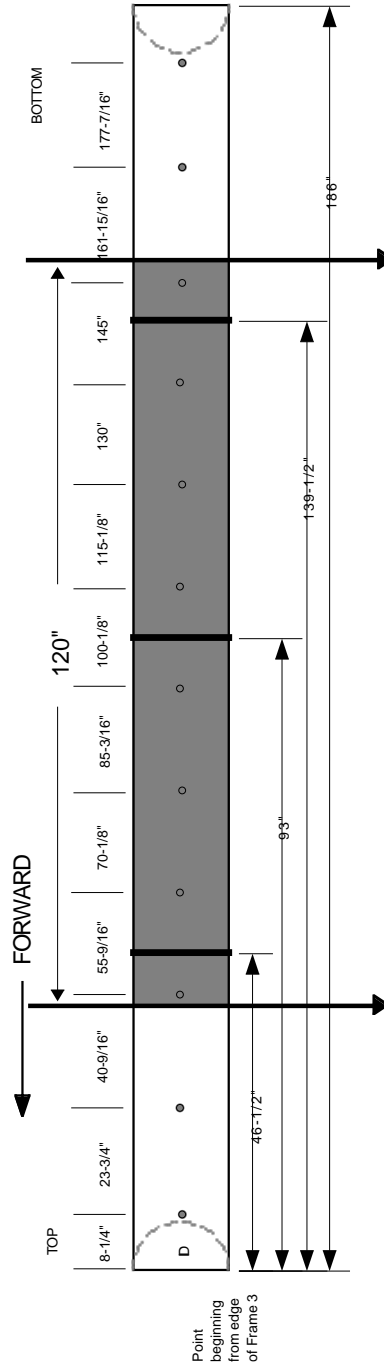


(usable locations on the Bow)



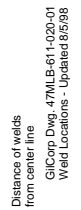
UNIVERSAL STRAIGHT SECTION Replacement Kit

(usable locations on Lower Rails)



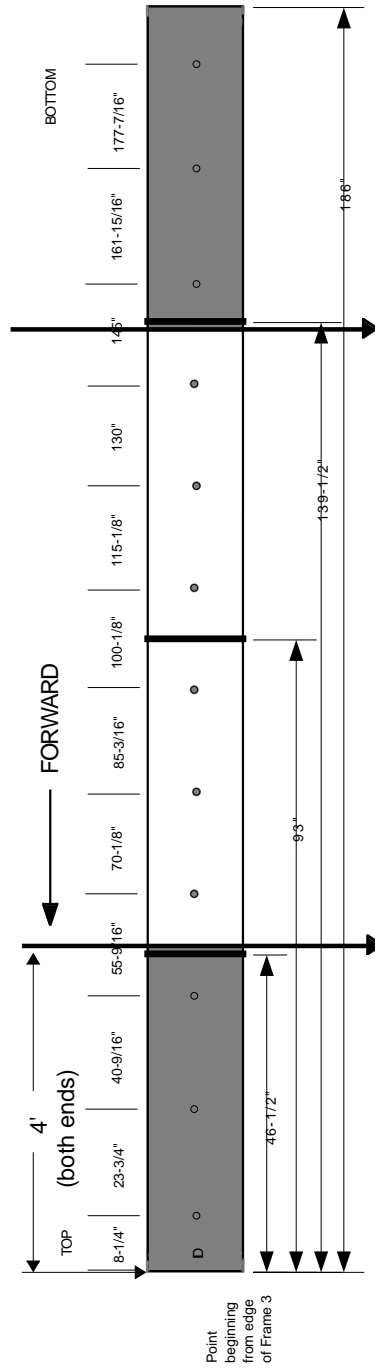
GilCorp Dwg. 47MLB-611-020-Lower
Weld Location - 8/5/98
Revised 2/18/99 LD
VERSION I

(usable locations on the Bow)



UNIVERSAL END SECTION Replacement Kit

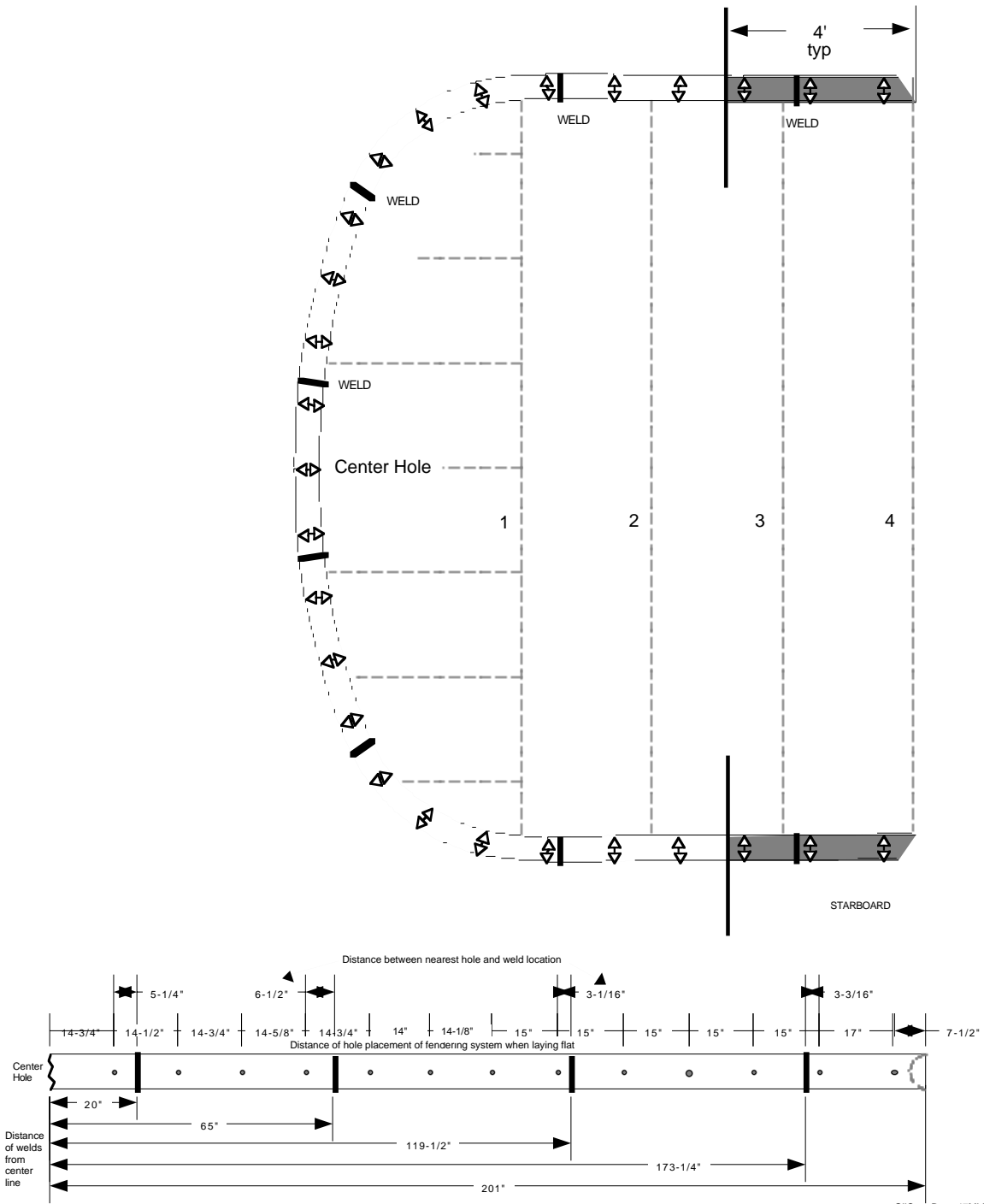
(usable locations on Lower Rails)



GilCorp Dwg. 47MLB-611-020-Lower
Weld Location - 8/5/98
Revised 2/13/99 LD
VERSION J

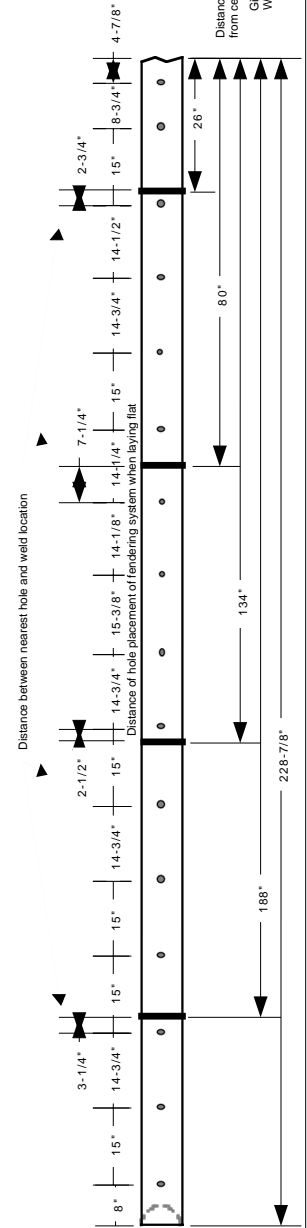
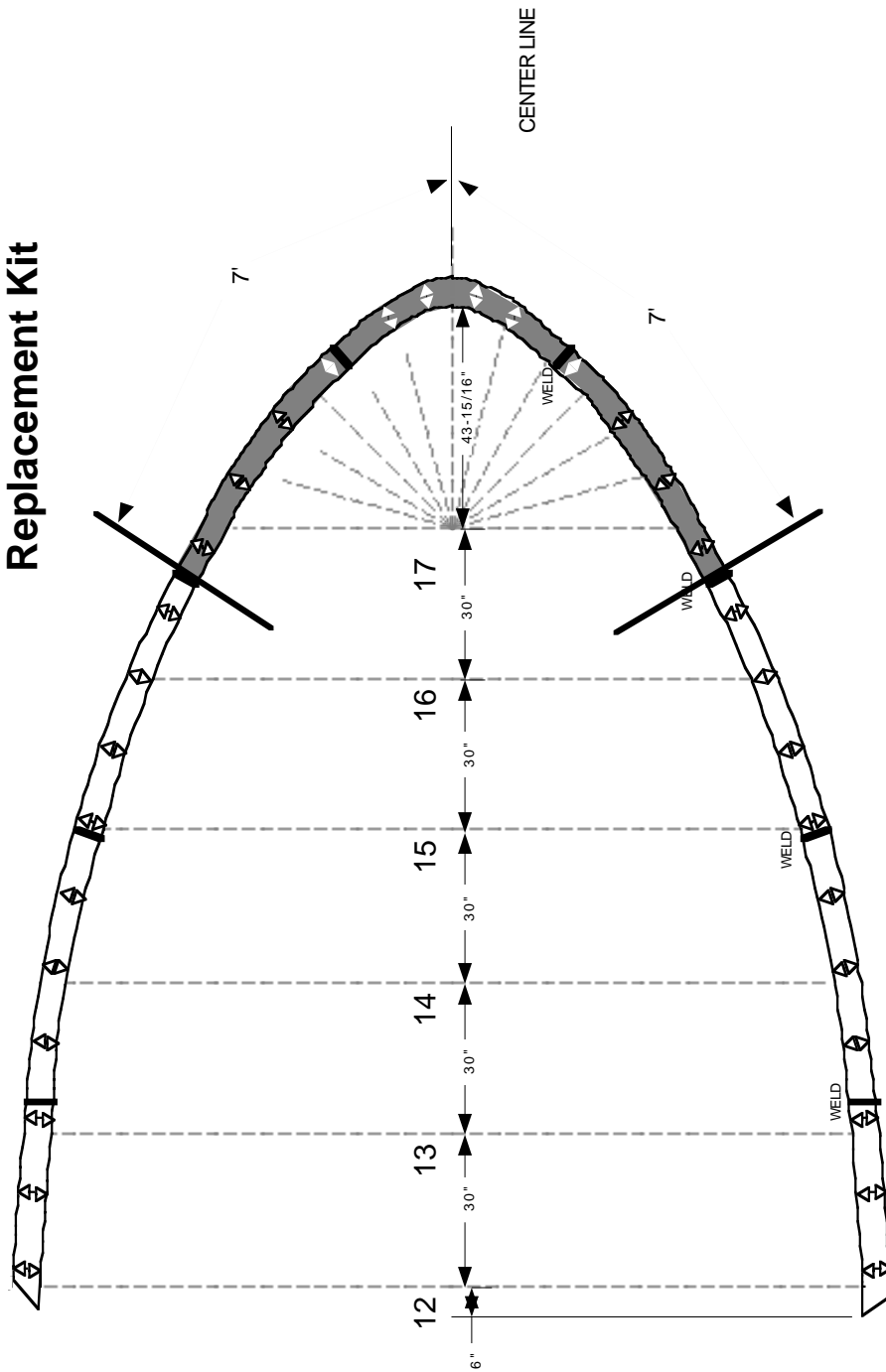
UNIVERSAL END SECTION Replacement Kit

(usable locations on the Stern)



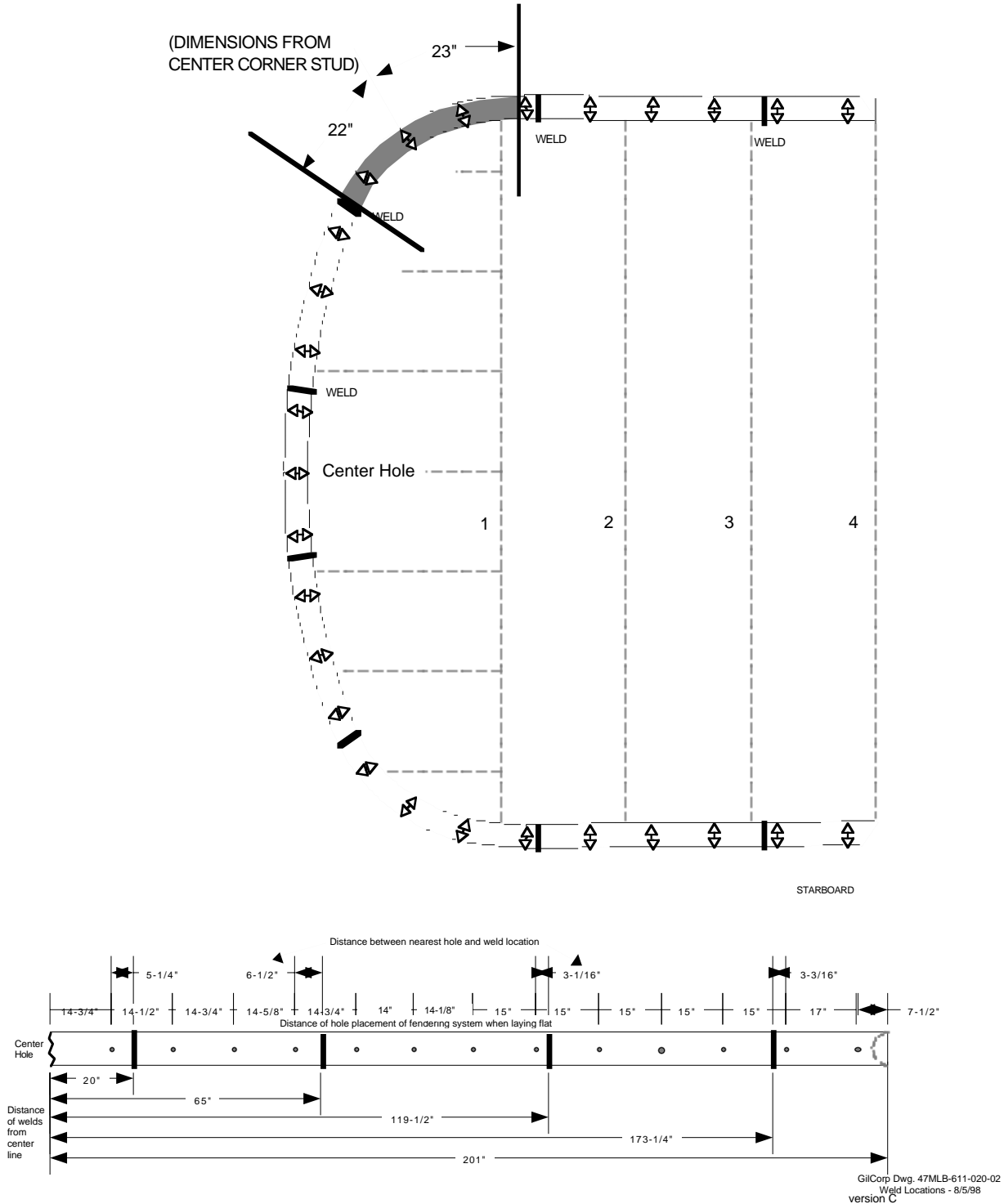
GilCorp Dwg. 47MLB-611-020-02
Weld Locations - 8/5/98
version B

BOW CAP SECTION - Replacement Kit

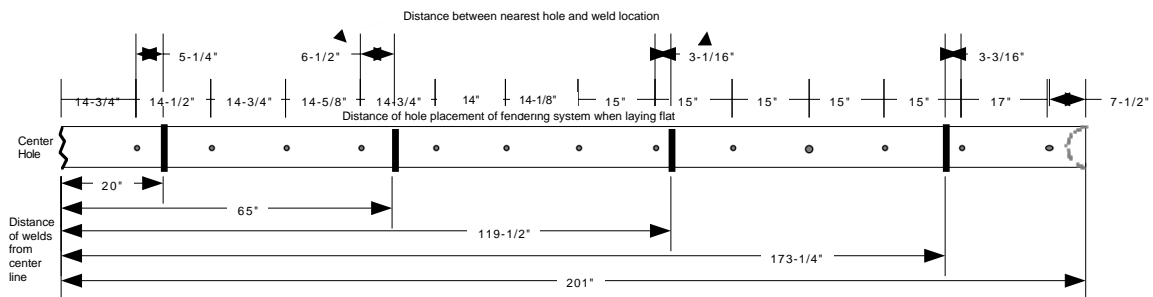
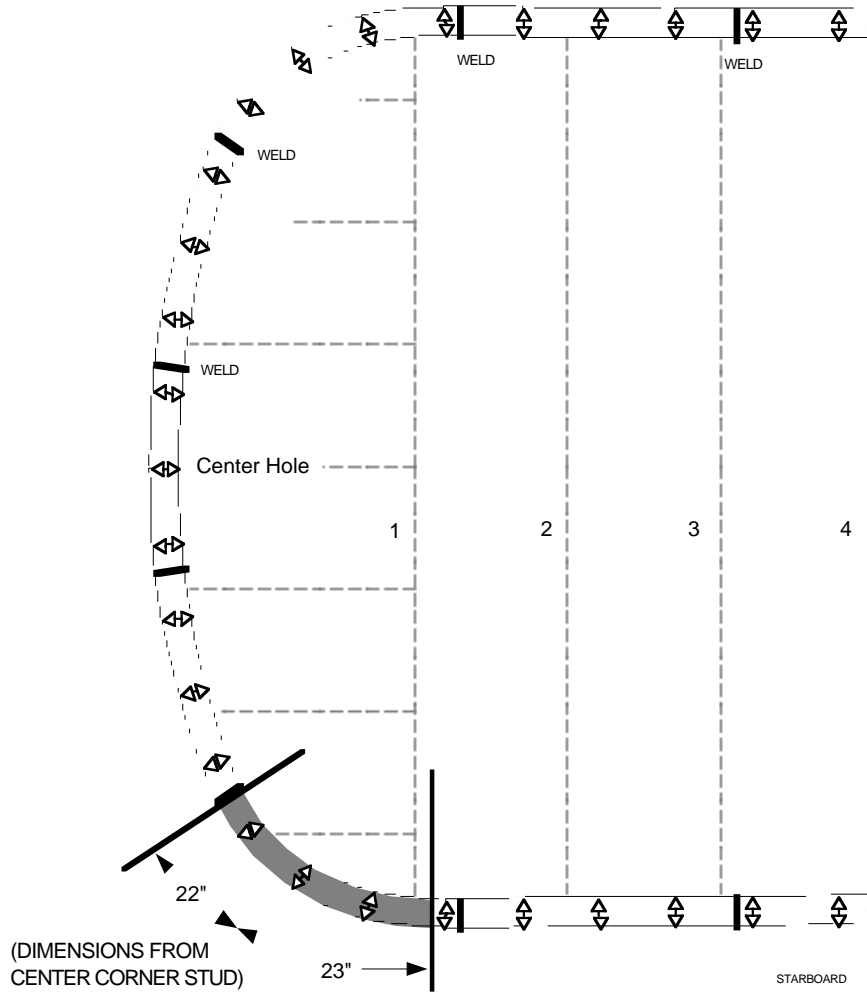


Distance of welds
from center line
GILCORP Dwg. 47MLB-811-020-01
Weld Locations - Updated 8/5/98

STERN CORNER (PORT only) SECTION Replacement Kit

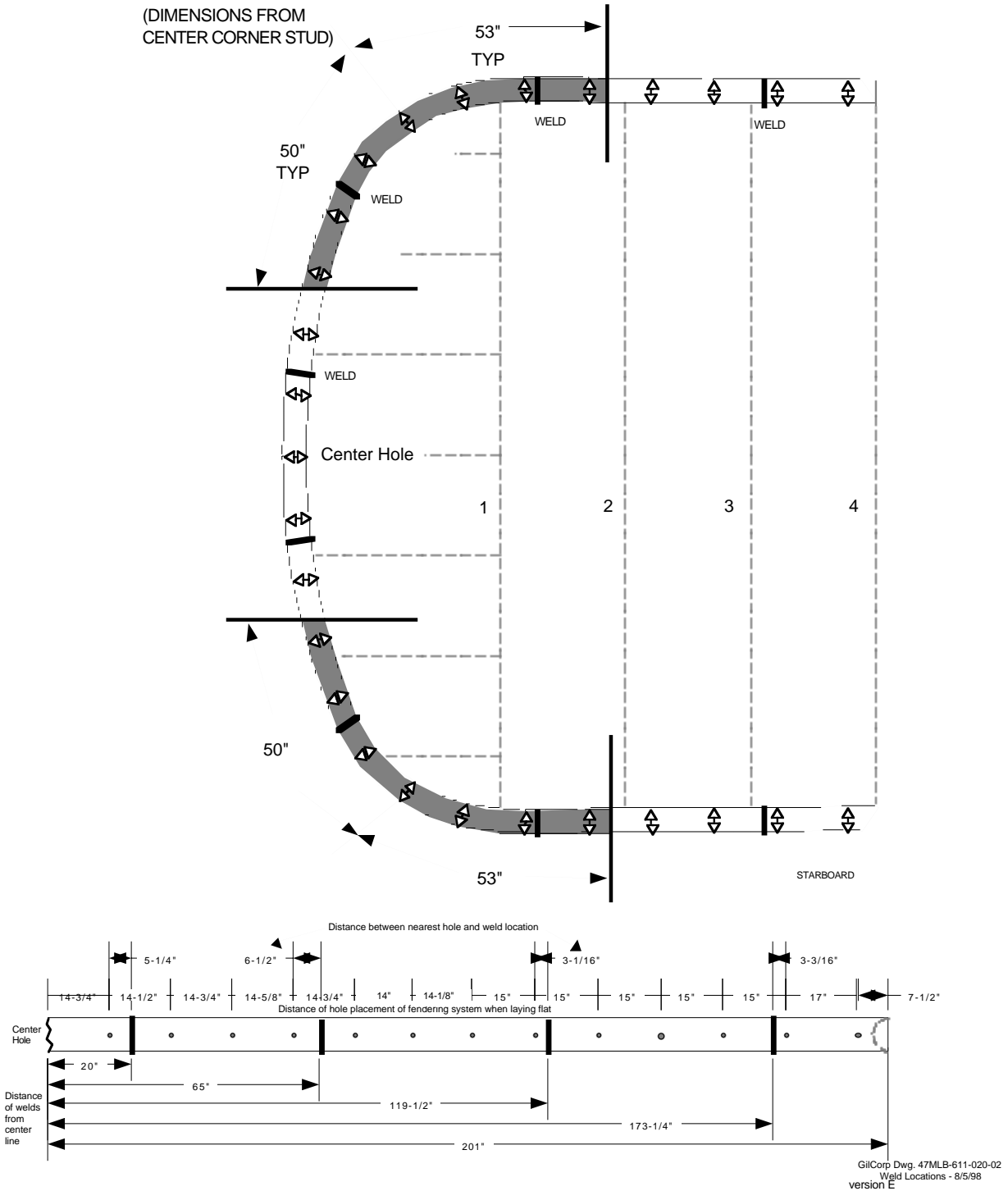


STERN CORNER (STBD only) SECTION Replacement Kit



GilCorp Dwg. 47MLB-611-020-02
Weld Locations - 8/5/98
version D

UNIVERSAL STRAIGHT SECTION Replacement Kit



USCG MLB FENDER SYSTEM SURFACE REPAIR KIT DESCRIPTION

The MLB Surface Repair Kit is designed for general surface repairs of all types. You can learn to fill and smooth cuts, gouges, abrasions, and scrapes not requiring a section replacement by first viewing the instructional video and then following the instruction sheet. Some practice is usually required to get a feel for applying the correct amounts of heat and material. Practice samples are provided with each kit for that purpose.

MLB Surface Repair Kit: P/N 47 MLB-611-020R-1

Components:

- (1) Roller
- (1) 12x12 Release Material
- (1) Heat Gun
- (12) Fill Sticks
- (25) SF 30# Material
- (25) SF 6# Material
- (1) Knife
- (1) Practice Sample
- (1) Instruction Video
- (1) Instruction Sheet

SURFACE REPAIR KIT FOR SURFACE REPAIRS:

EQUIPMENT NEEDED: heat gun
 razor knife
 hand roller
 hot and cold iron (not supplied)
 release material
 6# density foam
 30# density foam
 fill sticks

FILL STICK REPAIR:

Use this process to repair small gouges and deep scratches.

1. Clean surface area to be repaired. Be sure to dry the damaged area.
2. Using a heat gun, heat the fill stick until it starts to liquefy.
3. Apply melted fill stick to the damaged area until the area is over-filled.
4. Allow to cool solid, and trim flush using a razor knife.
5. Refer to the sample supplied in this kit for comparison.

(Note: for larger areas you may need to use a putty knife or flat tool to smooth surface)

FOAM REPAIRS:

Use this process to repair deep holes and tears.

1. Clean and dry damaged area by approved USCG cleaning methods.
2. Using a heat gun and the 6# density material, heat the damaged area and the 6# foam and fill in the void.
3. Use the hand roller to pack the foam into the void until it is filled approximately 1/4" over the skin surface.
4. Cut a patch of 30# density foam slightly larger than the damaged area. Heat the patch to the surface of the damaged area and roll smooth. (Note: a cold flat iron or flat metal plate may be used to smooth the surface)

USCG MLB FENDER SYSTEM UNIVERSAL STRAIGHT SECTION REPLACEMENT KIT DESCRIPTION

The MLB Universal Straight Section Replacement Kit is designed to replace straight to moderately curved sections of the bow, stern or lower rails up to nine (9) feet in length. This repair section is manufactured with special elongated access holes and slots to allow for a universal fit. Follow the steps in the “How To Use This Manual” section (pg. 4) to determine the extent and location of the damage. You can use as little or as much of the nine foot length as necessary remembering that a minimum of two studs must be spanned for proper attachment strength. First view the instructional video included in this kit and then follow the instruction sheet.

MLB Universal Straight Section Replacement Kit: P/N 47 MLB-611-020R-2

Components:

- (1) 9' – 2 Section w/3" Slots and Access Holes
- (6) 6" Backer Bars
- (7) S.S. Washer/Nut Assemblies
- (2) 20" Joining Bars
- (1) PVC Marking Guide
- (1) Installation Splint
- (2) 10 oz. Tubes 3M-4200 Fast Cure

NOTE 1: Titanium aluminum stud assemblies are also available from Gilman Corporation. Specify the required quantity with your order.

NOTE 2: Surface Repair Kit P/N 47 MLB-611-020R-1 is recommended for use with this repair procedure.

UNIVERSAL STRAIGHT SECTION REPLACEMENT KIT INSTALLATION INSTRUCTIONS

EQUIPMENT NEEDED: cutting device
 3/4" deep well socket w/ ratchet and extension
 3/4" shallow socket
 3/4" open end or box wrench
 razor knife
 heat gun
 hand roller
 caulking gun
 rubber mallet
 hardwood wedges

REMOVAL OF EXISTING FENDER SECTION:

1. Use the PVC marking guide to mark and cut the damaged section of fender. (Reminder-you must replace a minimum length that spans at least 2 studs).
2. Remove all hardware from the cut section.
3. Remove fender. If the fender is adhered, use wooden wedges and a mallet to remove.
4. Clean and prepare hull surface by USCG approved cleaning methods.

INSTALLATION OF THE UNIVERSAL FENDER:

1. Layout the damaged section of fender along side of the universal fender and line up holes.
2. Mark and cut the fender to length.
3. Apply recommended adhesive to the back of the fender.
4. Install 20" joining bars on each end of the universal fender bridging the original system. Use 6" backer bars to install the rest of the fender. Attach with 1/2" nuts and washers.
5. Use the surface repair kit (P/N 47 MLB-611-020R-1) to fill any voids or mismatches.
(Note: The installation splint may be required to draw the fender to the hull).

USCG MLB FENDER SYSTEM UNIVERSAL END SECTION REPLACEMENT KIT

The MLB Universal End Section Replacement Kit is designed to replace the fender system end sections of the bow, stern, or lower rails up to four (4) feet long. This repair section is manufactured with special elongated access holes and slots to allow for a universal fit. Follow the steps in the “How To Use This Manual” section (pg. 4) to determine the damage extent and location. You can use as little or as much of the nine foot length as necessary remembering that a minimum of two studs must be spanned for proper attachment strength. First view the instructional video included in this kit and then follow the instruction sheet.

MLB Universal End Section Replacement Kit: P/N 47 MLB-611-020R-3

REPLACES ONLY END SECTION

Components:

- (1) 4' Fender Section Length w/3" Slots and Access Holes
- (1) Joining Bar
- (2) Backer Bar 6"
- (3) S.S. Washer/Nut Assemblies
- (1) PVC Marking Jig
- (1) 10 oz. Tube 3M-4200 Fast Cure

NOTE 1: Titanium aluminum stud assemblies are also available from Gilman Corporation. Specify the required quantity with your order.

NOTE 2: Surface Repair Kit P/N 47 MLB-611-020R-1 is recommended for use with this repair

UNIVERSAL END SECTION REPLACEMENT KIT INSTALLATION INSTRUCTIONS

EQUIPMENT NEEDED: cutting device
 3/4" deep well socket w/ ratchet and extension
 3/4" shallow socket
 razor knife
 heat gun
 hand roller
 caulking gun
 rubber mallet
 hardwood wedges

REMOVAL OF DAMAGED END SECTION:

1. You may remove up to 4' of fender, but must span at least 2 studs minimum.
2. Locate and cut out damaged end.
3. Remove all hardware in the damaged section.
4. Remove fender. If the fender is adhered, use the wood wedges and mallet to remove.
5. Clean and prepare hull surface by approved USCG cleaning methods.

INSTALLATION OF END SECTION FENDER:

1. Match the old section to the new end section and cut to length.
2. Apply recommended adhesive to the back of the fender.
3. Install using a 20" joining bar to attach the end fender to the original system.
4. Use the 6" backer bars on the remaining studs with 1/2" nuts and washers.
5. Use the surface repair kit (P/N 47 MLB-611-020R-1) to fill any voids or mismatches.

**USCG MLB FENDER SYSTEM
BOW (NOSE)
SECTION REPLACEMENT KIT**

The MLB Bow Section Replacement Kit is designed to replace the fender system bow nose (see layout drawing, pg.6). The bow replacement section is thirteen feet, four inches (13' 4") long and comes complete with miter cuts and access holes ready to install. Follow the steps in the "How To Use This Manual" section (pg.4) to determine the damage extent and location. Because of the severe compound bow radius, we recommend the full thirteen foot length is installed. This will allow for the greatest leverage in wrapping around the bow radius and reduced stress at the mating ends. If less than the full thirteen foot length is to be used pay special attention to the "warming" and "fit-up" portion of the installation instructions. First view the instructional video included in this kit and then follow the instruction sheet.

MLB Bow Replacement Kit: P/N 47 MLB-611-020-01R1

Components:

- (1) 13' Bow Nose Fender Section w/Miters
- (1) Griddle and Blanket/Chemfab (used)
- (12) S.S. Washer/Nut Assemblies
- (4) S.S. Installation Alignment Tubes
- (2) 20" Joining Bars
- (1) Installation Splint
- (1) PVC Marking Guide
- (2) 10 oz. Tubes 3M-4200 Fast Cure
- (2) Backer Bar 6"*

*If system was adhered

NOTE 1: Titanium aluminum stud assemblies are also available from Gilman Corporation. Specify the required quantity with your order.

NOTE 2: Surface Repair Kit P/N 47 MLB-611-020R-1 is recommended for use with this repair procedure.

BOW SECTION REPLACEMENT KIT INSTALLATION INSTRUCTIONS

EQUIPMENT NEEDED: cutting device- (sawzall, hand saw, etc.)
 3/4" deep well socket w/ ratchet and extension
 3/4" shallow socket
 3/4" open end or box wrench
 razor knife
 heat gun
 hand roller
 caulking gun
 rubber mallet
 hardwood wedges

REMOVAL OF THE EXISTING BOW:

If the existing system has been installed with adhesive:

1. Locate the area, port and starboard between the sixth and seventh stud from center bow.
2. Measure 8" from the sixth stud aft and mark with the PVC marking guide.
3. Use a cutting device and cut along the marking guide (port and starboard).
4. Remove all retaining hardware from the bow cap (nuts on studs 1-6 port and starboard).
5. Using wooden wedges and a mallet, remove the old bow cap per the instructional video provided with this kit.
6. Clean and prepare hull surface by USCG approved cleaning methods.

If the existing system has been installed without adhesive:

1. Remove all hardware from the entire bow.
2. Remove bow.
3. Clean and prepare hull surface by USCG approved cleaning methods.

INSTALLATION OF THE BOW (NOSE):

1. Warm center bow as shown in the instructional video.
2. Apply recommended adhesive to the back of the fender.
3. Starting from the center bow, install the fender on the studs and fasten using the 1/2" nuts and washers supplied. (Note: Using 5/8" tubing will ease the hole lineup as shown on the video).
(Note: Use a super glue to adhere the nuts to the washers; it will save time and avoid frustration).
4. If the bow was adhered prior and the trailing edges are still installed on the hull, you will need to install a 6" backer plate (supplied) on the sixth attachment hole port and starboard.
5. Use the installation splint for extra leverage in drawing the fender tight to the hull.
6. If the bow was not adhered to the hull, you will use the 20" joining bar on the sixth stud port and starboard.
7. There may be a mismatch or a space where the replacement bow meets the original system, by using a surface repair kit (P/N 47 MLB-611-020R-1), you will be able to fill any void and seal the seam with a strip of 30# density foam.

**USCG MLB FENDER SYSTEM
STERN CORNER (PORT ONLY)
SECTION REPLACEMENT KIT**

The MLB Stern Corner, Port-Side Replacement Kit is designed to replace the fender system Stern corner, Port-side only (see layout drawing, pg. 6). This Stern corner replacement piece is molded to specifically fit the Port-side corner and is forty-three inches (43”) in length. The molded fit allows for the corner to be replaced without replacing the adjacent sections fore and aft, and comes complete - ready to install. First view the instructional video included in this kit and then follow the instruction sheet.

MLB Stern Corner Replacement Kit (Port): P/N 47 MLB-611-020-02RP

Components:

- (1) 43” Molded Stern Corner Fender Section
(Port Side ONLY)
- (1) Section – 3 Holes
- (2) Joining Rods
- (1) PVC Marking Guide
- (3) S.S. Washer/Nut Assemblies
- (1) 10 oz. Tube 3M-4200 Fast Cure
- (2) Backer Bar 6”*

*If system was adhered

NOTE 1: Titanium aluminum stud assemblies are also available from Gilman Corporation. Specify the required quantity with your order.

NOTE 2: Surface Repair Kit P/N 47 MLB-611-020R-1 is recommended for use with this repair.

STERN CORNER (PORT ONLY) SECTION REPLACEMENT KIT INSTALLATION INSTRUCTIONS:

EQUIPMENT NEEDED: cutting device
 3/4" deep well socket w/ ratchet and extension
 3/4" shallow socket
 razor knife
 heat gun
 hand roller
 caulking gun
 rubber mallet
 hardwood wedges

REMOVAL OF THE EXISTING STERN CORNER:

1. Lay new stern corner on top of the existing system to locate cutting points. Mark these points using the PVC marking guide.
2. Using the cutting device, cut along the marking guide (forward and aft).
3. Remove the retaining hardware (nuts & washers) from the cut section of fender.
4. Remove fender section (Note: If the section is adhered to the hull you may be required to use wedges and a mallet to remove).
5. Clean and prepare hull surface by USCG approved cleaning methods.

INSTALLATION OF THE MOLDED STERN CORNER

1. Apply recommended adhesive to the back of the replacement fender, as shown in the installation video.
2. Install using 1/2" nuts and washers and two 6" backer bars forward and aft as shown.
3. Use the surface repair kit (P/N 47 MLB-611-020R-1) to fill and seal any mismatches.

USCG MLB FENDER SYSTEM
STERN CORNER (STARBOARD ONLY)
SECTION REPLACEMENT KIT

The MLB Stern Corner, Starboard-Side Replacement Kit is designed to replace the fender system Stern corner, Starboard-side only (see layout drawing, pg. 6). This Stern corner replacement piece is molded to specifically fit the Starboard-side corner and is forty three inches (43") in length. The molded fit allows for the corner to be replaced without replacing the adjacent sections fore and aft, and comes complete - ready to install. First view the instructional video included in this kit and then follow the instruction sheet.

MLB Stern Corner Replacement Kit (Starboard): P/N 47 MLB-611-020-02RS

Components:

- (1) 43" Molded Stern Corner Fender Section
(Starboard Side ONLY)
- (2) Joining Rods
- (1) PVC Marking Guide
- (3) S.S. Washer/Nut Assemblies
- (1) 10 oz. Tube 3M-4200 Fast Cure
- (2) Backer Bar 6"*

*If system was adhered

NOTE 1: Titanium aluminum stud assemblies are also available from Gilman Corporation. Specify the required quantity with your order.

NOTE 2: Surface Repair Kit P/N 47 MLB-611-020R-1 is recommended for use with this repair procedure.

STERN CORNER (STARBOARD ONLY) SECTION REPLACEMENT KIT INSTALLATION INSTRUCTIONS

EQUIPMENT NEEDED: cutting device
 3/4" deep well socket w/ ratchet and extension
 3/4" shallow socket
 razor knife
 heat gun
 hand roller
 caulking gun
 rubber mallet
 hardwood wedges

REMOVAL OF THE EXISTING STERN CORNER:

1. Lay new stern corner on top of the existing system to locate cutting points. Mark these points using the PVC marking guide.
2. Using the cutting device, cut along the marking guide (forward and aft).
3. Remove the retaining hardware (nuts & washers) from the cut section of fender.
4. Remove fender section (Note: If the section is adhered to the hull you may be required to use wedges and a mallet to remove.)
5. Clean and prepare hull surface by USCG approved cleaning methods.

INSTALLATION OF THE MOLDED STERN CORNER

1. Apply recommended adhesive to the back of the replacement fender, as shown in the installation video.
2. Install using 1/2" nuts and washers and two 6" backer bars forward and aft as shown.
3. Use the surface repair kit (P/N 47 MLB-611-020R-1) to fill and seal any mismatches.

USCG MLB FENDER SYSTEM UNIVERSAL STERN CORNER SECTION REPLACEMENT KIT

The MLB Universal Stern Corner Replacement Kit is designed to replace the fender system Port or Starboard Stern corners (see layout drawing, pg.6). This Stern corner replacement piece is longer than the Port and Starboard molded replacement sections at eight feet, 4" (8' 4") in length. The mitered corner relief cuts allow the replacement section to fold around either stern corner and comes complete - ready to install. We recommend the full length be installed. This will allow for the greatest leverage in wrapping around the stern radius and reduces stress at the mating ends. If less than the full length is to be used pay special attention to the "warming" and "fit-up" portion of the installation instructions. Follow the steps in the "How To Use This Manual" section (pg. 4) to determine the damage extent and location. First view the instructional video included in this kit and then follow the instruction sheet.

MLB Stern Section Replacement Kit (Port or Starboard): P/N 47 MLB-611-020-02R1
Mitered Stern w/Relief Cuts (Universal)

Components:

- (1) 8' Stern Corner Fender Section with Miters
- (2) Joining Bars
- (1) PVC Marking Guide
- (1) Installation Splint
- (7) S.S. Washer/Nut Assemblies
- (4) S.S. Installation Alignment Tubes
- (1) Griddle and Blanket/Chemfab (Used)
- (2) 10 oz. Tubes 3M-4200 Fast Cure
- (2) Backer Bar 6"*

*If system was adhered

NOTE 1: Titanium aluminum stud assemblies are also available from Gilman Corporation. Specify the required quantity with your order.

NOTE 2: Surface Repair Kit P/N 47 MLB-611-020R-1 is recommended for use with this repair procedure.

UNIVERSAL STERN CORNER SECTION REPLACEMENT KIT INSTALLATION INSTRUCTIONS

EQUIPMENT NEEDED: cutting device
 3/4" deep well socket w/ ratchet and extension
 3/4" shallow socket
 3/4" open end or box wrench
 razor knife
 heat gun
 hand roller
 caulking gun
 rubber mallet
 hardwood wedges

REMOVAL OF THE EXISTING STERN CORNER:

If the existing system has been installed with adhesive:

- *1. From forward to aft locate the sixth stud and measure 7" forward and mark with the PVC marking guide. Cut using the desired cutting device.
- *2. Locate the eleventh stud, forward to aft and measure 5" aft and mark with the PVC marking guide. Cut using the desired cutting device.
3. Remove all hardware from cut section.
4. Remove corner section using wood wedges and a rubber mallet per the installation video.
5. Clean and prepare hull surface by approved USCG cleaning methods.

If the existing system has been installed without adhesive:

- *1. Locate the eleventh stud, forward to aft and measure 5" aft and mark with the PVC marking guide. Cut using the desired cutting device.
- *2. Remove all hardware from cut forward.
3. Remove and retain fender section.
4. Clean and prepare hull surface by approved USCG cleaning methods.

*If you intend to use less than the full replacement section length, mark your cut points between studs & proceed as directed.

INSTALLATION OF THE UNIVERSAL 8' STERN CORNER SECTION

1. Warm the mitered portion of the stern corner per the installation video.
2. Apply recommended adhesive to the back of the fender.
3. Install a 20" joining bar from the 12th stud to the 11th stud and fasten with a 1/2" nut and washer.
4. Work the fender from aft to forward while installing required hardware.
5. If the prior system was installed with adhesive use a 6" backer bar on the sixth stud forward.
6. If the prior system was installed without adhesive use a 20" joining bar to connect the sixth stud to the fifth stud as shown in the installation video. Cut the prior fender to length and install using recommended adhesive and hardware.
7. Use the surface repair kit (P/N 47 MLB-611-020R-1) to fill any voids and to repair any mismatches.

(Note: The installation splint may help to make hardware installation easier).

**USCG MLB FENDER SYSTEM
DOCKING/MOORING LINE
WEAR SLEEVE KIT**

The MLB Docking/Mooring Line Kit is designed to protect the fender system from line wear of all types. These easy to use PVC sleeves snap on over the fender at any straight location providing a tight friction fit. No mechanical attachment is required. Each wear sleeve comes with two (2) 1" SST line attachment eyes for tethering to dock pilings or to the boat itself. The rigid PVC sleeve allows lines to "ride" up and down against it's surface protecting the fender system beneath from constant abrasion situations.

MLB Docking/Mooring Line Wear Sleeve: P/N 47 MLB-611-020WSLEEVE

Components:

- (2) 2' PVC snap-on sleeves with (2) 1" line eyes
- (1) 3' PVC snap-on sleeve with (2) 1" line eyes

END CAP REPAIR

This process repairs tears on the flat surface of the end cap.

1. Cut a patch of 30# density foam.
2. Lay the repair patch over the damaged area and cover with the woven release material.
3. Using a hot flat-iron, heat the patch through the release material until smooth.
4. Apply a cold iron or a flat metal plate until the release material releases.

(Note: On surface repairs generally speaking the less you work and heat the area the better).

GENERAL FENDER SYSTEM CARE

- 1) Chemical resistance properties - the fender system is impervious to most fuels and cleaning agents (See DuPont Ionomer Chemical Resistance Report in the Appendix). However avoid spillage when possible.
- 2) Cleaning
 - clean with any approved USCG cleaning fluid
 - the original luster of the exterior fender skin can be periodically restored with the use of any standard shining agent, i.e. silicone solution, ArmorAll, etc
- 3) Docking/Mooring line wear - Docking/Mooring Line PVC Wear Sleeve Kits are available from the Gilman Corporation. These pop-on sleeves protect areas of constant wear from abrasion. See page 32.
- 4) Cautions - Contact with heated tools, propane or other cutting torches, uninsulated exhaust pipes and steam lines may damage fender material.

| <i>Product Name</i> | <i>Description</i> | <i>Part Number</i> | <i>NSN Number</i> | <i>Price</i> | <i>Shipped</i> |
|---|--|---------------------------|--------------------------|---------------------|-----------------------|
| Surface Repair Kit | Designed for general surface repairs of all types. | 47 MLB-611-020R-1 | | \$145.00 | UPS |
| Universal Straight Section Replacement Kit | Designed to replace straight to moderately curved sections of the bow, stern or lower rails up to nine (9) feet in length. | 47 MLB-611-020R-2 | | \$970.00 | Truck |
| Universal End Section Replacement Kit | Designed to replace the fender system end sections of the bow, stern, or lower rails up to four (4) feet long. | 47 MLB-611-020R-3 | | \$410.00 | UPS |
| Bow (Nose) Section Replacement Kit | Designed to replace the fender system bow nose. | 47 MLB-611-020-01R1 | | \$1,995.00 | Truck |
| Stern Corner (Port Only) Section Replacement Kit | Designed to replace the fender system Stern corner, Port-side only. | 47 MLB-611-020-02RP | | \$595.00 | UPS |
| Stern Corner (Starboard Only) Section Replacement Kit | Designed to replace the fender system Stern corner, Starboard-side only. | 47 MLB-611-020-02RS | | \$595.00 | UPS |
| Universal Stern Corner Section Replacement Kit | Designed to replace the fender system Port or Starboard Stern corners. | 47 MLB-611-020-02R1 | | \$1,375.00 | Truck |
| Docking/Mooring Line Wear Sleeve Kit | Designed to protect the fender system from line wear of all types. | 47 MLB-611-020WSLEEVE | | \$75.00 | UPS |
| Fender, Marine - Bow | Softlite® Ionomer foam material for bow application. | 47 MLB-611-020-01 | 2040 01-458-7973 | \$7,484.00 | Truck |
| Fender, Marine - Stern | Softlite® Ionomer foam material for stern application. | 47 MLB-611-020-02 | 2040 01-458-7979 | \$9,104.00 | Truck |
| Fender, Marine - Starboard | Softlite® Ionomer foam material for starboard application. | 47 MLB-611-020-03 | 2040 01-458-7982 | \$1,820.00 | Truck |
| Fender, Marine - Port | Softlite® Ionomer foam material for port application. | 47 MLB-611-020-04 | 2040 01-458-7985 | \$1,820.00 | Truck |
| Titanium Aluminum Stud Assembly | Standard USCG Design | 47 MLB-611-020STUD | | \$36.90 | UPS |